

Course Syllabus of Immunology

Faculty : Medicine and Health sciences

Department : Health Sciences

Program : Bachelor in Medical laboratory

I. General information about the course instructor :							
Name	Mogahid Yahya Nassar	Office Hours(3 Hours Weekly)					
Location & phone number	5202	Sat	Sun	Mon	Tue	Wed	Thu
Email	Mogahidnassar@yahoo.com				√		

II. General information about the course:						
1.	Course Title :	Immunology				
2.	Course Code and Number :	BML244				
3.	Credit Hours :	Credit Hours				Total
		Theoretical	Seminar/Tutorial	Practical	Training	
		2		1		
4.	Study Level and Semester:	2 nd year and 2 nd semester				
5.	Pre-requisites :	BHS140				
6.	Co-requisites:	None				
7.	Program in which the course is offered:	Bachelor in Medical laboratory				
8.	Teaching Language:	English				
1.	Instruction location:	University of Science and Technology, Sana'a				

عميد الكلية:
د. عبدالله المخلافي

رئيس القسم:
د. عبد الحبيب ريدمان

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د. محمد المرشدي

الموصف:
د. مجاهد نصار

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III. Course Description

This course provides the students with the basic concepts of immunology for understanding the immune system and its functions. The topics include the immune responses to infections, tumors, transplantation and immune disorders include hypersensitivity, autoimmune diseases, and immune deficiency diseases. The teaching & learning strategies that can be used include demonstration, lectures, practical lessons (laboratory) seminars, problem solving and self-learning. The students will be evaluated through report, written exam and practical exam.

IV. Course Aims: This course is aimed to:

1. Provide a foundation of basic immunological mechanism of the specific and non specific immunity.
2. Understand the process of immune response
3. Understanding the etiologies, mechanisms and features of the immunological diseases including, hypersensitivity, autoimmune disease and immunodeficiency.

V. Course Intended Learning Outcomes (CILOs) :

- a1 Describe the cells and organs that are involved in an immune response.
 a2 Outline the key components of the innate and adaptive immune responses
 a3 Identify the different types of hypersensitivity and the main mechanisms of immune tolerance and autoimmunity
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 b1. Explain how the immune system recognizes foreign antigen and the significance of self/non-self discrimination
 b2 Assess laboratory results.
 c1. Apply different methods of laboratory diagnosis in immunology
 c2. Work safely in a medical laboratory
 d1 Use simple word and IT skills (i.e., data processing, software, internet, and multimedia) and the library to find information.
 d2. Working in team (i.e., sharing presentations and discussions and solving problem).

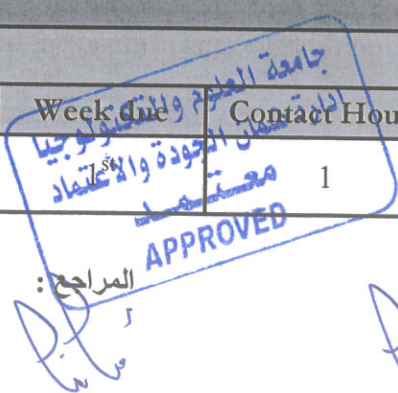
VI. Course Contents

Theoretical Aspect:

No.	Course Units	Sub-topics	Week due	Contact Hours
1	Introduction	-Definition of immunity -Types of immunity.	1 st	1

المراجع:

الموصف:



		-Main differences between specific and non- specific immunity		
2	Non- specific immunity	- Anatomical Barrier - Secretory molecules. - Cellular components.	1 st ,2 nd	3
3	Antigen	- Definition. - Factors affecting immunogenicity. -Chemical nature of the immunogen. -Types of antigen. -Super-antigen.	3 th	2
4	Complement	- Definition. - Pathways and mechanisms. - Functions. - Regulation and control	4 ^h	2
5	Immunoglobulins	- Definition. - Basic structure . - Functions. - Classes and types.	5 th	2
6	Cell and organs of the immune system	- Origin. - Types of lymphocytes. - T lymphocytes. - B lymphocytes. - Natural killer cells. - Primary and secondary Lymphoid organs	6 th	2
7	Mid Exam		7 th	2
8	Specific immunity	- Definition. - Types. - Immune response. - Antigen presenting cells. -Antigen processing and presentation. -Humoral immune response to bacterial infection. -Cell mediated immune response to viral infection. -Primary and secondary immune response.	8 th ,9 th	4
9	Hypersensitivity	- Definition. - Categories. - Types. - Mechanisms.	10 th	2
10	Transplantation immunology	- Definition. - Types of graft. - Genetic of immunotransplantation. - MHC gene.		

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المراجع:

الموصف:

		-Complications of transplantation. -Rejection.		
11	Tolerance	-Definition. -Types. -Mechanisms	12 th	1
12	Autoimmune disease	-Definition. -Types. -Mechanisms	12 th	1
13	Tumour immunology	-Definition. -Tumour antigen. -Immune surveillance -Tumour escape.	13 th	2
14	Immunodeficiency	Definition. -Types	14 th	2
15	Final exam		15 th	2
Total number of weeks and hours			15	30

Second: Practical/Tutorial/Clinical Aspects :

Write up practical/tutorial/clinical topics

No.	Practical/Tutorial/Clinical topics	No. of Weeks	Contact Hours
1.	Laboratory safety ,organization of immunological lab ,handling of infected sera	2 nd	2
2.	Types and principle of serological reaction - Handling of serum and its materials	3 rd	2
3.	Direct agglutination of ABO blood grouping	4 th	2
4.	Precipitation reaction ,complement fixation ,agglutination reaction , Neutralization ,immunofluorescence ,Radioimmunoassay. Application of these test in medical immunology serology ,and antisera.	5 th ,6 th	4
5.	ASO,CRP ,RF , ,	7 th	2
6.	TOXOPLASMA ,widal test	8 th	2
7.	Brucella RPR ,VRDL	9 th	2
8.	Enzyme linked immune sorbent assay (ELISA)	10 th ,11 th	4
9.	Final practical exam	14 th	2
Total number of weeks and hours			

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